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ABSTRACT

Research was conducted to develop and evaluate study materials that would help prospective drill sergeant candidates prepare for drill sergeant school. A study manual containing relevant readings, study objectives, and self-tests was prepared. Diagnostic exams were developed and used to evaluate the achievement of a class of drill sergeant candidates who used the manual in their pre-school study program. Results showed that men using the manual demonstrated only slightly higher learning than those who did not use it. Failure to study may be the cause, which suggests that low motivation may be a problem. The report suggests allowing the men more time for monitored study, establishing a minimum qualifying score for entry to the school, and using the diagnostic exams to screen potential candidates. (Author)

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Development and Evaluation of a Pre-School Study Manual for Drill Sergeant Candidates

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The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation.

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FOREWORD

The project reported here exemplifies a small, intensive, and quick-reacting R&D effort focused on solving an urgent personnel and training problem in the First Army NCO Academy. The work was performed in 1971 and a consulting report was provided to the Academy at that time. The report is now being made more generally available, because it is felt that the approach used may be of interest to training managers responsible for programs also in need of improvement, but similarly constrained by training time, resources, and marginally qualified trainees.

The NCO Academy, in the face of expanding demand from the field for trained Drill Sergeants, was confronted with an accelerating rate of failures in its Drill Sergeant Training Program. Because of limited time and resources with which to analyze and attack the problem, it was not feasible to address all aspects of the personnel and training system. Difficulties in recruiting top candidates for the Drill Sergeant Program were aggravated by an imbalance of job incentives and job demands, yet there was no time to await policy changes in this area. The training itself was also a natural subject for inquiry; however, historically it had been adequate, and resources would not permit an analysis and overhaul of the instructional program. An avenue of remediation had to be found within these constraints.

The approach taken attempted to make use of the potential candidate's pre-school leisure time by providing a self-administered study program to fill gaps in knowledge considered prerequisite to candidacy. Underlying this approach was the assumption that the more subject-relevant knowledge possessed by the candidate at course entry, the more time he could devote in formal training to practical application of this knowledge.

Toward this end a study manual containing relevant readings, study objectives, and self-tests was prepared. Diagnostic tests were also developed for use, first in identifying areas of individual deficiency for study, and later in assessing achievement of those who completed the study program.

Technical assistance in connection with this study was provided by the Human Resources Research Organization (HumRRO), Division No. 2, Fort Knox, Kentucky. The Division Director is Dr. Donald F. Haggard. The work was conducted under Army Contract No. DAHC 19-70-C-0012 and Army Project 2Q062107A712, Training, Motivation, and Leadership Research.

DEVELOPMENT AND EVALUATION OF A PRE-SCHOOL STUDY MANUAL FOR DRILL SERGEANT CANDIDATES[1]

William C. Osborn and Ronald E. Kraemer

BACKGROUND

Introduction

The importance of Basic Combat Training in the Army needs little emphasis. A soldier's morale and job effectiveness result largely from the treatment he receives during this brief but critical period of Army life. And it is the Drill Sergeant, as the principal trainer, counselor, and model of military behavior, who is the central figure in this formative stage of a soldier's development.

Policy changes under the Modern Volunteer Army (MVA) have led to increased attention to the Drill Sergeant's role. The importance of Basic Training—and therefore of the Drill Sergeant Program—to the success of the MVA has been given strong emphasis. Consequently, many military installations conducting training for Drill Sergeants are taking a hard look at their programs in the aggressive pursuit of remedial actions designed to upgrade their training product.

This is a report of one such remedial effort conducted at the First Army NCO Academy, Fort Knox, Kentucky.

Problem

The major problem at the Fort Knox Academy was a high rate of attrition in the Drill Sergeant Course. More generally, it was becoming increasingly difficult to turn out enough qualified Drill Sergeants to meet field requirements. Although more men were being recruited for Drill Sergeant training, relatively greater numbers were dropping out, failing to meet end-of-course qualification, or just marginally passing.

A preliminary analysis of the overall problem revealed three probable causes: the job, the trainee population, and the training program. These causes are not discrete; they interact and overlap.

First, the Drill Sergeant's job seemed to have deteriorated from the high prestige position of manager/trainer that it was designed to be. Pay, special recognition, and other fringe benefits apparently were insufficient to offset the demanding work, long hours, and responsibility inherent in the job. Despite steps being taken to raise the pay of Drill Sergeants, it is still possible, that job incentives are insufficient either to induce the more able personnel to Drill Sergeant candidacy, or to motivate candidates to acceptable levels of performance in training.

Second, there is the fact that once the demand for Drill Sergeants is increased for whatever reason, without a sufficient increase in job incentives, the ability and experience level of the trainee population must eventually decrease. There are strong indications that this is the case. Although the Drill Sergeant course was designed for senior NCO grades, a relatively high percentage of E-4 and E-5 personnel are being admitted to the program.

[1]This paper is a slightly abbreviated version of a consulting report prepared by HumRRO in August 1971, providing the military sponsor with a record of the technical assistance that had been supplied.

Finally, the training program itself was considered as a possible source of difficulty. Here two facts are of special interest. First, the course was originally an experimental one developed on an ad hoc basis and adopted without full test and evaluation.[1] Therefore any inherent shortcomings in the course might still prevail. Second, and of more immediate importance, as a greater number of inexperienced personnel were admitted to Drill Sergeant School, it became necessary to include even more remedial material to cover knowledge areas previously considered prerequisite.

Since limited time and available manpower precluded a full-scale inquiry into all possible problem areas, only the most obvious and manageable area was selected for study: the need for remedial training for increasing prerequisite knowledge to offset the inexperience of personnel being recruited as Drill Sergeant Candidates.

The school staff had been aware of this need and had been instructing candidates awaiting entrance to Drill Sergeant School to study relevant Field Manuals (FM). But it became evident that (a) they were not reading the manuals or (b) they were not benefiting from them. Possible reasons for this failure were assumed to include:

- Uncertainty on the part of the candidate as to what he did and did not know relative to what he was expected to know.
- Inaccessibility of FMs within the training units where candidates resided pending entrance to the course.
- Too much material to be covered (six FMs) in available nonduty time.
- Low motivation to study material that the candidate suspects will be covered in Drill Sergeant School.

Proposed Solution

With the pre-school study program as the focus, a joint DSS-HumRRO development effort was planned to provide the school with better informed trainees through (a) an improved method of diagnosing deficient areas of knowledge for the man who is recruited to Drill Sergeant candidacy, (b) a better way of communicating to him what he is expected to know by the time he begins school, and (c) a consolidation of reference material into one source book with supporting guidelines for study.

These objectives provided the basis for a two-phase study that included a development phase and an evaluation phase.

In the development phase, test and study materials were prepared. First, a diagnostic test was developed to assess a candidate's prerequisite knowledge and point out to him areas in which his military knowledge was weak. Second, a Study Manual was prepared to bring together under one cover the required reading material, along with specific guidelines for implementing an individual study program. This study program could be used by the candidate during pre-school weeks typically spent as an Assistant Drill Sergeant.

The evaluation phase of the study involved an empirical test consisting of use of the Study Manual by one class at the Fort Knox Drill Sergeant School during the pre-school stage.

As implied earlier, the rationale for the study centered on the proposition that the existing pre-school program of individual study was too unstructured to provide the necessary direction and motivation. By providing candidates with a more structured and consolidated package of study materials, it was hypothesized that:

(1) Increased availability and selectivity of the reading material, along with built-in study guidance would encourage candidates to devote more time to studying.

[1] In 1964 U.S. Continental Army Command formed an *ad hoc* HumRRO team to develop the prototype course. Because of the urgent need at that time, the course was implemented without the recommended test and evaluation.

(2) Their increased study would help candidates to acquire more knowledge prerequisite to Drill Sergeant School.

METHOD

Development of Materials

As mentioned, two types of materials were prepared during the development phase of the study: (a) tests for use in diagnosing the level of prerequisite knowledge possessed by a candidate; (b) a Study Manual containing reading material, study objectives, and self-tests. A critical first step, preliminary to developing both types of materials, involved the identification of relevant subject matter.

Under the supervision of a senior staff member, instructors in the Drill Sergeant School identified relevant reading material from Department of the Army publications. As the instructors were experienced in one or more sectors of course content, they were able to identify specific knowledge areas considered prerequisite—in the sense that, if possessed by the beginning trainee, instruction could be focused on the development of skills. Publications used by the instructors covered five main topics:

- Military Leadership
- Techniques of Military Instruction
- Drill and Ceremonies
- Rifle (5.56mm, M16A1)
- Physical Readiness Training

The principal source of material was Army Field Manuals.

Test Development. The selected subject matter was used by a HumRRO staff member in drafting some 800 test questions. In their initial form most of these questions were true-false and completion items. The questions were then submitted to school staff for review and evaluation. Instructors were asked not only to edit the questions for readability and accuracy, but to systematically rate each question as to its relevance and importance to the subject matter. Revision following this evaluation reduced the original 800 questions to 540.

The questions were then divided into five preliminary test forms, each roughly equivalent in terms of subject matter coverage, and administered on a trial basis to a class entering Drill Sergeant School. Results of this trial were used to further screen and revise the test questions. Two hundred questions were chosen, converted to multiple-choice format, and divided into two equivalent 100-item tests (Diagnostic Form A and Diagnostic Form B) by carefully matching questions in terms of estimated difficulty and similarity of content. (The 340 unused questions were set aside for inclusion in the study manual.)

The two equated tests were then administered to a class in Drill Sergeant School and the results used to further equalize the difficulty of the two test forms. Each final form of the Diagnostic Examination consisted of 100 multiple-choice questions distributed over five subject matter areas: 20 questions on Techniques of Military Instruction, 20 on the M16A1 Rifle, 10 on Military Leadership, 30 on Drill and Ceremonies, and 20 on Physical Readiness Training. As total score was simply the sum of the five subtest scores, relatively greater weight was given to Drill and Ceremonies and relatively less to Military Leadership. However, the number of questions per area reflected the relative density of information considered critical by the school staff.

Thus, two final forms of the Diagnostic Exam were of approximately equal difficulty, yielding five subscores, and a total score that were comparable across the two forms.

Development of the Study Manual. The basic concept for the Study Manual was simply to bring together under one cover essential readings covering the five subject matter areas. Material considered relevant and so designated by school staff was extracted from Department of the Army publications and reproduced for inclusion in a manual. Study objectives that designated important information to be acquired from the reading and required short write-in answers were prepared. Test questions not previously used in the final forms or the Diagnostic Examination were included after each set of study objectives.

The resulting manual was made up of five sections corresponding to the major subject matter areas, each containing a reading, study objectives, and test questions. An explanation of how to use the manual was given in the front, and answers to the test questions were appended. A preliminary form of the Study Manual was then printed for use in the evaluation study.[1]

Evaluation Study

Study Plan. The basic plan of the evaluation centered on a comparison of Diagnostic Exam scores between two groups of entering Drill Sergeant Candidates: one that had been given the Study Manual for use during their pre-school assignment (Experimental, or SM Group), and one that had followed the normal procedure of studying designated Army Field Manuals during this same period (Control, or FM Group).

The study spanned approximately five weeks. The first few days were spent in pre-testing and assigning personnel to one of the two study groups; four weeks were then spent by all study personnel back in their training units where, as Assistant Drill Sergeants, they utilized one of the two study methods in their free time; the last few days were spent in retesting personnel and collecting final data.

Study Personnel. The original group of study participants totaled 66, all of whom were Active Army personnel assigned to training units as designates for the next Drill Sergeant Class. By the final stage of data collection, 50 men were still in the study, 27 in the Experimental Group (SM) and 23 in the Control (FM). Attrition was primarily due to customary reassignments, emergency leaves, and medical and punitive actions. However, on completion of the study two more men were dropped from the Control Group because an administrative error resulted in their taking the wrong exam on retest. Thus, for purposes of data analysis the final group numbers were: $N_{SM} = 27$ and $N_{FM} = 21$.

Background characteristics of the two study groups were quite similar, even though pre-test score was the primary basis for assignment to study conditions. Both groups averaged between 11 and 12 years of formal education and about 3.5 years of military service. Both were represented by a variety of Military Occupational Specialties (MOSs), with approximately half of each group having Armor-related backgrounds. Over half of the men in each group held rank of E-4, and, with the exception of one or two E-6s and E-7s, the remainder were E-5s.

Procedure. All testing and administrative procedures were handled by a staff member from the Drill Sergeant School. The following procedure was used to conduct the evaluation study:

(1) At the beginning of the fifth week prior to start of their Drill Sergeant Course, the 66 class designates were given the Diagnostic Exam. Several group testing sessions were arranged to accommodate the scheduling of all personnel. Before testing began it was explained that the results were for use in assessing the men's present knowledge of military subjects considered essential to Drill Sergeants, and that the test results would be useful to them in planning their pre-school study program. Half of the

[1] *A Study Manual for the Drill Sergeant Candidate*, Research By-Product, HumRRO Division No. 2, Fort Knox, Ky., January 1971.

men were given Form A of the Diagnostic Exam and half were given Form B. (This was an added precaution against possible differences that may still have existed between the two forms.) At the end of the examination period the men were instructed to return one week later to receive their test results.

(2) On the basis of test results, the men were administratively divided into two groups—the Experimental Group, which was to be given the Study Manual, and the Control Group, which was to follow the conventional pre-school study program. Assignment to groups was based on two factors, (a) the form of the Diagnostic Exam taken, and (b) total score on the exam. That is, men who had taken Form A were divided into two subgroups, each subgroup having approximately the same average and variability of total test scores. The same was done for men who had taken Form B. Then one subgroup from each exam group (A and B) was combined to form the Experimental Group, and the remaining two became the Control.

(3) A week later when the men returned to receive their test results, they were assigned to appropriate groups and handled separately. In both cases they were given their test results in terms of total score and five subscores. In addition they were instructed to concentrate their study in the areas where their scores were lowest, with 70% being given as a rough indicator of satisfactory performance on each subtest. The prescribed list of Army publications was again recommended as study material for the Control Group. However, each member of the Experimental Group was given the Study Manual, along with an overview of directions on how to use it. Both groups were informed that they would take another form of the Diagnostic Exam one month later, at the time they were to begin school, in order to see how they had progressed in their study program.

(4) With the start of school all men were retested, each taking the alternate form of the Diagnostic Exam from the one taken during pre-testing. In addition, all were asked to complete a brief questionnaire that had been prepared to obtain personal history data and pertinent information regarding amount of time spent studying, amount of material covered, opinions of the pre-school study program, and so forth.

(5) As an additional step in data collection, final performance in Drill Sergeant School was recorded for all study personnel. This was to see whether Diagnostic Exam score would be a useful predictor of school performance. School performance was recorded in terms of a cumulative point scale ranging up to a maximum of 1000; 700 was minimum passing.

RESULTS

Adjustments in Test Score Data

Pre-test and post-test scores for the two study groups are given in Table 1. The average percent of test questions passed is shown for each subtest as well as for the total test. Similarity of pretest total score for the two original groups—FM, 45.6%, and SM, 45.9%—merely reflects the accuracy in initial matching of the groups. Pretest averages computed after the fact (not shown on Table 1) for the 21 FM and 27 SM personnel were 48.0% and 46.3% respectively.

Modest gains are indicated from pre- to post-test for both groups, with a slightly greater overall gain suggested for the SM Group. Although these data give a general picture of the outcome of the study, in this form they may not legitimately be subjected to analysis or further interpretation. In spite of precautions taken to develop equivalent forms of the Diagnostic Exam, Form A proved to be slightly but consistently more difficult than Form B (Table 2). A difference of six percentage points separated the two forms on both administrations.

Table 1

Pre-Test and Post-Test Scores (Average Percent Correct) for the Two Study Groups on the Diagnostic Exam

Subtest[a]	Control Group (FM)		Experimental Group (SM)	
	Pre-Test (N=33)	Post-Test (N=21)	Pre-Test (N=33)	Post-Test (N=27)
TMI	37.7	43.1	35.3	48.1
RIF	39.5	47.4	42.7	55.9
ML	50.6	55.2	49.1	62.3
DC	48.1	60.2	48.7	61.2
PT	51.8	55.7	54.1	58.1
Total Test	45.6	52.6	45.9	56.7

[a]Subtests are: Techniques of Military Instruction (TMI), Rifle M16A1 (RIF), Military Leadership (ML), Drill and Ceremonies (DC), and Physical Readiness Training (PT).

Table 2

Difficulty Level of the Test as Indicated by Scores (Average Percent Correct) on the Two Forms

Subtest	Pre-Test		Post-Test	
	Form A (N=33)	Form B (N=33)	Form A (N=25)	Form B (N=23)
TMI	33	40	43	48
RIF	43	42	53	52
ML	47	52	53	65
DC	45	51	60	63
PT	48	58	50	64
Total Test	43	49	52	58

This fact alone would not have caused a problem if the original 66 men had completed the study, or if an equal number of men within each study group had ended up with Form A and Form B on the post-test. Unfortunately this was not the case, and as the two forms were *not* equally represented in the study groups during post-test, any apparent differences or lack of differences between groups are confounded with differences in test form difficulty. To avoid this and to make the two forms comparable, an adjustment was made by adding the constant 6, the average difference in difficulty, to each Form A total score.

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An additional conversion was made in the basic data primarily to reduce the pre- vs. post-test scores to a single measure, but also to dispel concern over the small pre-test difference in the two final study groups. "Relative gain" scores were computed by dividing the difference in adjusted post- and pre-test scores by one of two quantities: (a) if post-test minus pre-test was positive, as in most cases, the difference was divided by the maximum possible gain that a man could have attained; (b) if the difference was negative, it was divided by a maximum possible loss. Relative gain scores indicate the amount of improvement shown by an individual as a proportion of what he might have achieved. These scores are used in the subsequent analysis.

Performance of the Study Groups

Individual relative gain scores for the 48 men completing the study ranged from .17 to .59. Average relative gain for the FM Group was .11 and for the SM Group .21.

The difference of .10 is a statistically reliable one.[1] However, although it indicates that the SM Group improved nearly twice as much as the FM Group, in neither case was improvement very substantial from a practical viewpoint. Relative gains are shown for total test along with subtest area in Figure 1. It is apparent that the greater improvement by SM personnel is largely in two areas, Techniques of Military Instruction and Military Leadership.

Study Time. As mentioned earlier, it was anticipated that having a Study Manual would result in more time spent studying. In the questionnaire all personnel were asked to estimate the number of hours they devoted to study. Responses to this question are

Average Relative Gain by Subtest and Total Test for the Two Study Groups

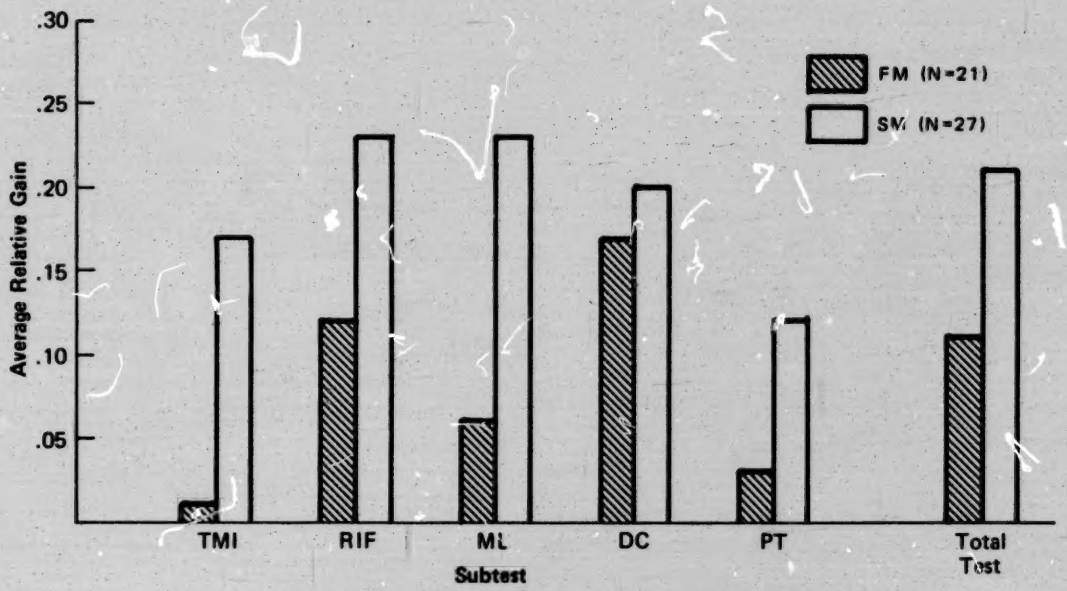

Figure 1

[1] The obtained t statistic of 2.10 has less than a .05 probability of occurring by chance.

summarized for FM and SM Groups in Table 3. Differences between the two distributions[1] are chiefly reflected in the seven SM personnel who reportedly spent more than 12 hours in study.

Table 3

Number of Men in Each Group by Amount of Reported Study Time

Group	N	Reported Study Time (hours)			
		0-2	3-6	7-12	13 or more
FM	23	8	10	5	0
SM	24	6	6	5	7

Of greater interest is the relationship between study time and learning for the two groups. This was evaluated by first dividing all personnel into two categories, those who reportedly spent four hours or less in studying versus those who spent more than four hours, and then observing differences in relative gain scores for FM and SM Groups. As shown in Figure 2, there was a significant interaction between time reportedly spent studying and study group. (Analysis of Variance results are given in Table 4.) For those

Average Relative Gain scores as a Function of Reported Time Spent Studying for FM and SM Groups

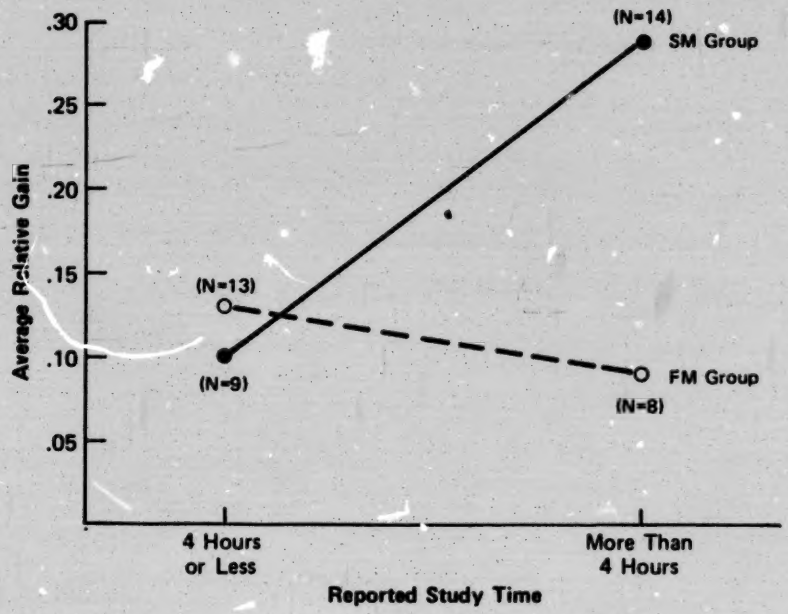

Figure 2

[1] Chi-square statistic of 8.27 has less than a .05 probability of occurring by chance.

Table 4

Analysis of Variance of Relative Gain Scores for FM and SM Groups as a Function of Time Reported Studying

Source	df	MS	F
FM vs. SM Group	1	.064	2.46
Study Time	1	.059	2.27
Group x Study Time	1	.137	5.27[a]
Error	40	.026	

[a] $F < .05$

who reported spending four hours or less studying, it made no difference whether they used FMs or the Study Manual; among men who reported more than four hours of study, those who had the Study Manual averaged a greater gain in knowledge. Stated another way, men in the FM group apparently did not benefit from additional study time, but those in the SM group did.

Relationship of Diagnostic Exam Score and School Performance

Correlations between pre-test scores, post-test scores, and final point total attained in Drill Sergeant School were computed for the 32 men who completed school. Pre-test score and school performance correlated .71; post-test score and school performance correlated .70. Both indicate a high, positive, and substantial degree of relationship between pre-school knowledge of relevant subject matter and subsequent achievement in Drill Sergeant School. Moreover, these correlations should be viewed as conservative estimates, since school failures, all of whom tend to score low on the Diagnostic Exams, were not included in the calculations.

DISCUSSION AND CONCLUSIONS

From the standpoint of original purpose, results of the study may be termed only moderately encouraging. Candidates with the experimental Study Manual demonstrated slightly greater learning than did men using the Field Manuals. The Study Manual group, on the average, tended to devote more time to study, and those among them who reportedly studied the most also tended to show greater achievement in final test performance.

On the other hand, two factors strongly militate against unqualified endorsement of the Study Manual. First and perhaps least obvious is the possibility that a form of Hawthorne Effect was operating in the study. As there was no practical way within the constraints of the study to effectively insulate the two candidate groups from one another, it is possible that men given the Study Manuals viewed themselves as a "special test group," and were motivated to perform by this fact alone rather than by qualities inherent in the Study Manual. Or conversely, by exclusion from the "special test group" men in the FM group may have been less motivated than normally. To rule out this phenomenon one must eliminate the sense of special treatment through somehow separating the two groups either in time or location (possibly different posts), to minimize indications of experimental treatment.

The second and by far the more serious source of discouragement in study results pertains to absolute achievement by candidates. Men following the normal pre-school study program typically acquired 11% of what they could have learned, while men with the Study Manual gained on the average of 21%. Considering that these gains translate into unadjusted post-test scores of approximately 53% and 57% respectively, there is little cause for optimism—from 40 to 50% of the material considered prerequisite to Drill Sergeant School was left unlearned. The typical Drill Sergeant Candidate simply did not benefit to any substantial degree from the pre-school study program.

The reason why they are not benefiting probably lies beyond conclusions that can be reached in this study. A possible cause, although probably only symptomatic of the underlying problem, is the failure to study. FM personnel averaged about three hours of reported study time and SM personnel about six hours, which amounts to less than two hours a week at most. Although it may be safely concluded that in most cases this is insufficient time to master the subject matter, no set amount of time can be prescribed for all men. Mastery time will depend on initial knowledge and individual learning ability. The man with the highest relative gain score, 59%, reported spending only six hours studying, while the remaining four men with relative gains of over 40% reported spending from 10 to 33 hours. (These top five men, incidentally, had the Study Manual.) Moreover, questionnaire data shed little light on the issue of adequate study time. It is not conclusive whether too little study time is provided or too little time is spent studying. Difference of opinion of the candidates may chiefly reflect differences in willingness to find time to study.

This brings us to the more basic question of individual motivation to become a Drill Sergeant. If low motivation is assumed to lie at the heart of the problem of turning out qualified Drill Sergeants, the solution will most likely involve policy changes that go beyond an attempt to upgrade the pre-school study program. On the other hand, any such total effort to improve the Drill Sergeant program might well begin here.

Conclusions and Implications

Results of this study, including observations made by candidates in the questionnaire, led to the following major conclusions:

(1) For the more motivated men, the Study Manual is a useful aid in the pre-school stage of the Drill Sergeant Program.
(2) Except for the few motivated men who used the Study Manual, neither group in the study benefited to a substantial degree from the pre-school study period. Overall, they still knew less than 60% of the total subject matter.
(3) Most of the men did not put in enough study time to benefit from either the Field Manuals or the Study Manual—either because of low motivation or because of too little available time.
(4) The Diagnostic Exam may be a useful predictor of success in Drill Sergeant School.

These conclusions suggest a number of possible implications that should be given further consideration, either separately or in concert. Among these are:

(1) Every candidate could be issued a Study Manual as well as encouraged to use relevant Field Manuals if desired.
(2) A portion of each duty day (one or two hours) could be allocated as official study time for candidates in their pre-school assignment.
(3) During their pre-school assignment, candidates' progress could be monitored periodically by Senior Drill Sergeants in the units or by school personnel.

(4) A minimum qualifying score could be established for the final administration of the Diagnostic Exam and used as a firm standard for entry to Drill Sergeant School.
(5) The Diagnostic Exam along with other measures could be used to screen men at the recruiting stage of the Drill Sergeant Program.

REPORT DOCUMENTATION PAGE

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Research was conducted to develop and evaluate study materials that would help prospective Drill Sergeant candidates prepare for Drill Sergeant school. A Study Manual containing relevant readings, study objectives, and self-tests was prepared. Diagnostic exams were developed and used to evaluate the achievement of a class of Drill Sergeant candidates who used the manual in their pre-school study program. Results showed that men using the manual

(Continued)

20. (Continued)

demonstrated only slightly higher learning than those who did not use it. Failure to study may be the cause, which suggests that low motivation may be a problem. The report suggests allowing the men more time for monitored study, establishing a minimum qualifying score for entry to the school, and using the Diagnostic Exams to screen potential candidates.